

Around the Table Discussion

TriMet

Currently, TriMet is working on two FFGA projects.

WES - Westside Express Service

WES is a 14.7 mile new Commuter Rail service connecting the western suburbs of Wilsonville, Tualatin, Tigard and Beaverton. Total FFGA cost is \$117.3 million. It includes five stations, including 700 park-and-ride spaces spread among four of the stations. The project also includes four new Diesel Multiple Unit (DMU) railcars. The service will shared upgraded tracks with a short line freight rail provider. The scope of work includes upgraded track, structures, crossing improvements, stations and a signal system. Work is approximately 80% complete and service is expected to begin in October 2008.

I205 / Portland Mall Light Rail Project

This project, also known as South Corridor Phase 1, is a 8.3 mile expansion of the existing MAX light rail system. Total FFGA cost is \$575.7million. The project includes two major segments:

A 6.5 mile segment along Interstate 205 connecting the existing Gateway Transit Center to the Clackamas Town Center. It includes eight stations and 2300 park-and-ride spaces.

A 1.8 mile segment running north/south through the downtown core, connecting Union Station and Portland State University and crossing the existing east-west LRT through downtown. Ten new downtown stations will be added with this segment.

The project also includes 22 new low floor light rail vehicles.

Work is approximately 50% complete and service is expected to begin in September 2009.

For both projects, topics of discussion at the Construction Roundtable could include:

- FTA Risk Analysis (covered at previous sessions)
- Managing costs in an escalating construction market
- Improving construction safety performance

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Around the Table Discussion

METRO – Phoenix, AZ

METRO is seven months away from beginning revenue service on the 20 mile Central Phoenix/East Valley starter system. Currently civil construction is finishing up and station and systems work is in full swing. Thirty six vehicles have been assembled and are working their way through qualification testing. The project is slated to open on December 27th, 2008

METRO has also begun the Final design of a 3.2 mile extension of the 20 mile starter segment and this is slated to begin construction this year. This project is utilizing the CM@Risk procurement method and is totally locally funded by the City of Phoenix. Finally, in the planning stages are three more extensions which include an approximate 10 mile extension in the I-10 west highway corridor.

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Around the Table Discussion

CENTRAL FLORIDA COMMUTER RAIL PROJECT SCOPE

The Florida Department of Transportation (FDOT) is advancing a commuter rail transit project to run along a 61-mile stretch of existing rail freight tracks in a four-county area in Central Florida. The 31-mile Phase I segment would serve 12 stations, linking DeBary, FL to Orlando. Phase II would serve 5 additional stations, north to DeLand, FL and south to Poinciana, FL. Service is expected to begin on Phase I in 2010.

The Department is in the midst of selecting a firm to Design and Build thirty two (32) miles of commuter rail service for phase I as well as operate and maintain the entire 61 mile corridor during the construction of Phase I. Three Design/Build teams have been shortlisted. Technical proposals are due from the teams on May 9, 2008. Price proposals from these firms are due on June 6.

Track Work

The track work includes new track construction adjacent to approximately 18 miles of existing single mainline track in five sections. Approximately two (2) miles total of existing single track will remain single track. Various track upgrades and realignments needed throughout the corridor. New maintenance and storage tracks are to be constructed in the Vehicle Storage and Maintenance Facility.

Highway and Pedestrian Grade Crossings

Within phase I there are 94 highway-rail grade crossings, 42 of which are in the new second track construction sections. There are new pedestrian crossings at various locations throughout.

Railway Signal Systems

The railway signal system work includes the design, fabrication, installation, testing, commissioning and cutover of a new wayside Traffic Control System signal system and installation of new wayside equipment along the 32-mile miles of phase I.

Communications Systems

The systems work includes design, fabrication, construction, testing, and commissioning of all communications systems required for dispatch, operations, and maintenance of phase I and maintenance of the 62-mile CFCRT corridor. This includes a Traffic Control System, an Operations Control Center, provisions in the station platforms for passenger-information systems (public address system, variable message systems and closed circuit television (CCTV) system), and all systems integration, testing, commissioning and startup required for a fully functional commuter rail system in phase I.

Structures

Structural work includes the replacement of approximately 100 feet of timber trestle section of the railroad bridge over the St. Johns River. The bridge replacement will require new foundations, substructure and superstructure.

Station Platforms

Station platform work includes the design and construction of concrete side platforms at each station.

Vehicle Storage and Maintenance Facility and Operations Control Center

The Design/Build Firm will be required to design and construct maintenance and operations facilities. The maintenance and operations facilities will include a Vehicle Storage and Maintenance Facility and an Operations Control Center.

Railway Maintenance Services

The railway maintenance services during design and construction include inspection and maintenance of all existing mainline track, right-of-way, bridges, wayside signal equipment, communication systems, and highway-rail grade crossings within the approximately 62-mile rail corridor.

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Around the Table Discussion

Sound Transit

Joe Gildner, Sound Transit, is currently working on the last elements to complete the *Sound Move Plan* established in 1996. The plan includes a mix of transportation improvements: high-occupancy vehicle (HOV) lane access improvements, ST Express bus routes, Sounder commuter rail and Link light rail. To date, the ST Regional Express program has provided funding to HOV lane access to 100 miles of freeway bus and carpools lanes at 17 locations in the tri-county region. Two HOV access capital projects remain. Likewise, roughly 80% (24) of the community connections (*i.e. stations, transit centers, park-and-ride lots and arterial improvements*) have been completed throughout the tri-county area. The remaining six connections have been budgeted for 2008. To date, ST Sounder program has completed roughly 90% of the commuter rail system between Everett and Tacoma. The remaining work between Tacoma and Lakewood (8 miles) is underway. To date, Link light rail has completed roughly 84% of the construction work for 16 miles of guideway and 13 stations from downtown Seattle to Sea-Tac International Airport. This Project is still on schedule to open in 2009. Also, work continues on final design and our FFGA for the University Link, a 3-½ mile extension of the Initial Segment from downtown Seattle to the University of Washington. Looking ahead, ST recognizes a number of challenges as the Agency continues to manage fixed-price contracts (a number of them multi-year) in volatile marketplace. Likewise, ST continues to assess the bidding climate for future construction contracts. ST continues to review the Agency's work on risk assessments, contract packaging and pricing, engineer estimates, bid-ability and constructability reviews. In the later case, the Agency is mobilizing our construction management consultants earlier to assist in the reviews. The Agency is also upgrading procedures for independent design and estimate reviews. The Agency has been working with the local AGC representatives to improve the General Conditions in our contract documents. And, the Agency continues review our fleet management and life cycle costing procedures.

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Around the Table Discussion

The Roundtable Discussion that I would like to introduce involves the resolution of contractor and consultant requests for equitable adjustments (REA's) related to project delays. SEPTA, through an inter-departmental team approach, brings together a number of departments including Contract Administration, Project Control, Project Management Staff and Internal Audit to review, discuss and ultimately develop a proposed settlement range for compensable project delays.

We have formalized a 'draft' Project Management Procedure that I've attached and would like to discuss/present to the Construction Roundtable – see below.

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Engineering Maintenance & Construction Division

Project Control & Capital QA/QC Department

Subject: TIA and Delay Damage Review Guidelines	Section: Project Control 4.11	Issue: Rev. 0	Page: 1 of 3
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1. PURPOSE

- A. Provide a reference document for reviewing Time Impact Analyses (TIA's) and Requests for Equitable Adjustment (REA's).
- B. Includes the types of delay costs and potential offsets for change order work.
- C. Describes the process SEPTA uses for resolving REA's.

2. RESPONSIBILITIES

A. Time Impact Analyses (TIA)

1. Project Management
 - Review the TIA's delay issues for accuracy.
 - Identify contractor-caused delays.
2. Project Control
 - Determine entitlement to a time extension.
 - Perform concurrent delay analysis.
 - Review and summarize TIA findings.
3. Contract Administration and Internal Audit
 - Review Project Control's recommendations for time extensions and compensable days.
 - Contract Administration sends correspondence to contractor on its entitlement to a time extension.

B. Requests for Equitable Adjustments (REA)

1. Project Management

- Review REA and verify accuracy of information presented.
2. Project Control
 - Review REA with respect to the TIA and SEPTA delay analyses.
 - Summarize REA costs.
 - Provide analysis to Contract Administration and Internal Audit for review.
 3. Contract Administration and Internal Audit
 - Internal Audit reviews REA's costs and associated delay, and calculates entitlement to home office overhead.

3. DEFINITIONS

A. Types of Damages

1. Contractor Damages
 - Extended field office overhead and home office overhead.
 - Escalation, lost productivity, insurance, bonds and interest.
 - Lost profit, consultant fees and loss of bonding capacity.
 - Weather-related costs.
2. SEPTA Damages
 - Liquidated damages.
 - Actual damages.

B. Change Orders and Delay Claims

1. For change order work performed during the extended period, the field office, home office and bond costs included in the change order may be used to potentially offset some of the contractor's delay damages.

4. GUIDELINES/PROCEDURES

A. TIA Review and REA Resolution Process

1. TIA Review
 - Staffs review TIA and discuss internally.
 - Project Management Staff identifies contractor-caused delays.
 - Project Control performs concurrent delay analysis and determines the number of excusable and non-excusable days.

- Contract Administration and Internal Audit review Project Control's analysis.
- Contract Administration notifies the contractor of the number of excusable days and its entitlement to a time extension.

2. REA Review and Resolution

- Staffs review REA and discuss internally.
- Based on the results of the TIA review above, Project Control summarizes the contractor's REA.
- Project Control, Project Management staff, Contract Administration and Internal Audit discuss preliminary analysis.
- Internal Audit determines home office overhead entitlement and amount.
- If necessary, Contract Administration requests additional information from the contractor to support the costs claimed in the REA.
- Project Management Staff reviews the detail of REA costs presented and verifies costs through project documentation.
- Project Control, Project Management Staff, Contract Administration and internal Audit update analysis and establish preliminary settlement range.
- Contract Administration obtains senior management approval of potential settlement range.
- Contract Administration negotiates a settlement with the contractor.

Around the Table Discussion

Miami-Dade Transit

1. Busway Segment II:

Scope:

- The project includes the construction of approximately 6.5 miles of Busway extension from SW 264th ST to SW 344th ST and 0.8 miles of the extension of the bike path from SW 344th ST to US-1.

Lessons Learned/Challenges:

- Added scope after contract was awarded: additional Shelters/Bus Stops/Signalization
- Coordination with local municipalities (JPA's) for architectural/aesthetics improvements.
- Interagency coordination with Public Works on synchronization of signalization.
- Verification of known utilities prior to "breaking ground".
- Modification to MOT set-ups (detours, etc.),
- Use of asphalt base to speed construction thru intersections.

2. Miami Intermodal Center Earlington Heights Connector:

Scope:

- The MIC-Earlington Heights Connector is an elevated 2.4 mile double track, heavy rail extension of the existing Miami-Dade Metrorail system. The project includes one new MetroRail station at the MIC. This project provides a direct link to Downtown Miami from the MIC.

Challenges expected:

- Crossing of the South Florida Rail Corridor, Miami River, SR 112 (lane-rental specifications for loss revenue to tolls),
- Connection to existing Earlington Heights station.
- FAA glidepath height restrictions both thru final design and construction
- Right-of-way
- Utilities
- Environmental assessments

Lessons Learned:

- Extensive constructability reviews,
- Pre-bid meetings with Contractor and CEI firms,
- 90 day advertisement,
- Cut-off for pre-bid RFI's one month prior to bid opening,
- JPA with FDOT @ MIC,
- Dry-run with Building Department/Life Safety to obtain permit,
- Systems will be Design-Build incorporated into the contract.

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Around the Table Discussion

DART EXPANSION PLANS DART RAIL FACTS

- Currently operating: 45 miles, 35 stations (service opened June 14, 1996)
- Northwest/Southeast (Green Line) expansion: 27.7 miles, 20 stations
- Northwest Corridor (Orange Line) expansion: 14 miles, 7 stations
- Northeast Corridor (Blue Line) expansion: 4.5 miles, 1 station

SOUTHEAST CORRIDOR (GREEN LINE) EXPANSION

10.1 miles, Pearl Station to Buckner Station; 8 stations

Pearl Station to MLK Station (2.7 miles)

Opens: September 2009

Stations*: Deep Ellum Station

Baylor Station

Fair Park Station

MLK Station

* Daily service to Victory Station also begins September 2009

MLK Station to Buckner Station (7.4 miles)

Opens: December 2010

Stations: Hatcher Station

Lawnview Station

Lake June Station

Buckner Station

NORTHWEST CORRIDOR (GREEN LINE) EXPANSION

17.6 miles, West End Station (Dallas) to Frankford Station
(Carrollton); 12 stations

West End Station to Victory Station (1.2 miles)

Opened: November 12, 2004 (special event service only)

September 2009 (daily service)

Stations: Victory Station

Victory Station to Inwood Station (2.8 miles)
Opens: December 2010
Stations: Market Center Station
Southwestern Medical District/Parkland Station
Inwood Station

Inwood Station to Bachman Station (Northwest Highway) (3.2 miles)
Opens: December 2010
Stations: Love Field Station
Bachman Station

Bachman Station to Farmers Branch Station (4.9 miles)
Opens: December 2010
Stations: Walnut Hill/Denton Station
Royal Lane Station
Farmers Branch Station

Farmers Branch Station to North Carrollton/Frankford Station (5.5 miles)
Opens: December 2010
Stations: Downtown Carrollton Station
Trinity Mills Station
North Carrollton/Frankford Station

NORTHWEST CORRIDOR (ORANGE LINE) EXPANSION

14 miles, Bachman Station (Dallas) to DFW Airport; 7 stations

Bachman Station to Las Colinas Urban Center (5.1 miles)
Opens: December 2011

Las Colinas Urban Center to Belt Line Rd. (4.1 miles)
Opens: December 2012

Belt Line Rd. to DFW Airport (4.8 miles)
Opens: December 2013

NORTHEAST CORRIDOR (BLUE LINE) EXPANSION

4.5 miles, Downtown Garland to Downtown Rowlett; 1 station

Downtown Garland Station to Downtown Rowlett Station (4.5 miles)
Opens: December 2012
Stations: Downtown Rowlett Station

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Around the Table Discussion

Sacramento Regional Transit District (RT)

South Sacramento Corridor Phase 2 project:

- **US Fish and Wildlife Service** - Our biggest challenge in getting the Administrative Draft of the FEIS submitted to FTA for review has been FWS review of the biological assessment (BA) and issuance of a biological opinion (BO). Due to limited staffing, they were projecting a 12 to 18 month delay in reviewing the BA with additional time for issuance of the BO. RT had discussions, at length, with FWS and FTA staff to find a way to expedite the review. At FWS staff's recommendation, RT was able to negotiate with California DOT staff to contract with their designated staff to review the BA and draft a BO for this project. We now believe a BO can be issued in within a two month window.
- **California Public Utilities Commission (CPUC)** - In California, the CPUC is the regulatory agency over safety of light rail operations. RT was put in a difficult position to address grade crossing issues raised by the CPUC by comments on the DEIS related to a pedestrian grade separation. FTA staff has said they rely solely on the input by CPUC staff related to safety concerns and would not accept an Administrative Draft of the FEIS for review until this issue was fully resolved. RT's difficulty was that PE was only 30% complete to this point with additional design needed to answer some of the questions being posed. The possibility of the pedestrian crossing and related mitigation was already addressed in the DEIS. The big concern from FTA seem to be the possible cost impacts to the project as it was not included in the New Starts cost estimate.
- **Flood Control Project/USACOE** - Several projects are concurrently in development (water line expansion, sewer facility expansion, future roadway widening, and creek widening for flood control). RT is constantly being given the 'Katrina' card as the rationale for why the flood control project trumps all other projects. Are any other agencies encountering this challenge? If so, how are you dealing with it? Also, have they claimed a need for greater separation of planned rail improvements from flood control facilities based upon 'upcoming' changes being discussed? How have you responded?
- **Value Engineering** - How/when have you typically performed the Value Engineering scope of work? Is anyone (from West Coast properties) interested in participating in peer review based Value Engineering exercise?

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Around the Table Discussion

Santa Clara Valley Transportation Authority

VTA is beginning the process of updating the Santa Clara County Measure A Revenue & Expenditure Plan, which contains a \$21.5B (YOE) program of projects to be accomplished over the next 30 years, including the extension of BART to San Jose. Revised revenue forecasts will require moving certain Measure A project schedules out and “shortening” the list of projects. Along with revising the implementation plan, discussions will get underway to identify strategies for ultimately funding the operations and maintenance of these capital improvements.

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Around the Table Discussion

Honolulu High Capacity Transit Corridor Project

In Honolulu we are currently anticipating approval to enter into preliminary engineering for a 20-mile all elevated rail transit system. There will be 19 stations on the system and it will operate as a “light metro” system using fully automated third rail cars in train consists of 3 or four units. The cost estimate for the project, about \$3.5 billion in 2006 dollars, is currently being updated. An interesting aspect of the project is that the funding is planned to be about 75% local and 25% federal. Because of this, the City intends to begin construction immediately following clearance of the EIS and final ROD. This is being done to expedite the project and avoid the extended duration after a ROD to reach a full funding grant agreement. It is anticipated that this approach will save over a year’s worth of inflation costs on the project. The vehicles might also be contracted ahead of the FFGA in order to begin providing service on the first phase segment as early as possible. The total work contracted by the City ahead of the FFGA could amount to something between \$600 million and \$1.2 billion or as much as 50% of the total project cost. This approach has been discussed with FTA, but it is not yet formally submitted or reviewed.

The initial construction will be for guideway and maintenance facility in one to three design-build segment contracts. Future segments could be either design-build or design-bid-build. Construction and procurement packaging alternatives are currently being evaluated and we would be interested in hearing from the Roundtable members about their thoughts on this packaging. On the civil/facilities side, our concerns are about the practical size limits for construction packages. On the systems procurement side, our concerns are about the advantages and disadvantages of various package combinations for vehicles, train control, traction power and communications.

Another issue facing the City is FTA’s lack of definition for the risk analysis program which is necessary for approval to enter into preliminary engineering. We have produced the other various documents required for PE approval (PMP, RAMP, SSMP, etc.) and have indications that they will be accepted. We have had no instructions whatsoever about what will be required for pre-PE risk analysis.

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